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In Pro per

STATE OF CALIFORNIA

Energy Resources Conservation
And Development Commission

In the Matter of:)	Docket No. 97-AFC-1
)	
)	
The Application for Certification)	
For the High Desert Power Project [HDPP])	
)	
_____)	

**DIRECT TESTIMONY
OF GARY A LEDFORD
ON
WET/DRY COOLING
Or In the Alternative Use of
SUPPLEMENTAL WATER OR FREE
PRODUCTION ALLOWANCE
FOR THE
HIGH DESERT POWER PROJECT**

Respectfully submitted:

September 21, 1999

GARY A. LEDFORD
PARTY IN INTERVENTION
IN PRO PER

DECLARATION OF GARY A. LEDFORD

I, Gary A. Ledford, declare as follows:

1. I am citizen and resident of the State of California, Town of Apple Valley. For at least the last fifteen years I have paid taxes on real estate situated in the High Desert and under the jurisdiction of the Mojave Water Agency (hereinafter "MWA").
2. I intervened in 97-AFC-1 and am a bonafide party.
3. I have lived in the Victor Valley for a period of over 20 years and have built over 700 homes in the Valley, primarily for Senior Citizens over the age of 55.
4. I have also been responsible for several commercial projects in Apple Valley.
5. Over the past 30 years I have broad-based experience in the design and construction business.
6. I believe that the most viable alternative is Dry Cooling, based on the scarce water resource in the High Desert.
7. The evaporative cooling process proposed in this project requires the 100% consumptive use of State Project Water (SPW).
8. I became an intervenor when it became apparent that MWA intends to rely on the Energy Commission process to produce a "CEQA Equivalent Document." The document will be used for possible approvals allowing MWA to provide some amount of SPW for Evaporative Cooling.
9. California Energy Commission staff's testimony states, there is not enough SWP Water to cure the overdraft. However, the CEC proposes to allow the HDPP, subject to local political approval to continue the overdraft's existence and use 20% of the available replacement water for evaporative cooling where there is no benefit to the basin.
10. The cumulative impacts associated with the use of 4,000-acre feet of consumed water in cooling towers, when the alternative for Wet/Dry Cooling would mitigate the water impacts to a level of non-significance is virtually overlooked even though many of the CEC staff indicated the Dry Cooling Alternative is the better alternative in this case.

11. CURE states that Wet Cooling with condensers has the capacity to place chemicals into the atmosphere which may not be mitigatable to a level of non-significance. The CURE statement is not addressed or responded to by the Applicant or Staff.
12. CEQA requires a response to each comment made by the parties and participants in a public decision. The Energy Commission process has not responded to issues raised by this intervenor and CURE. The siting process is failing to comply with the requirements of providing an impartial, informative document, in a complete and concise form, circulated for a period of at least 30 days prior to a hearing as required by CEQA.
13. I attempted to get information from the High Desert Power Project (HDPP), using the Energy Commission Data Request process, but I was denied any of the information that I requested.
14. Over the past 12 years I have been actively involved in the adjudication of water rights in the Mojave Water Agency Boundaries.
15. I have an equity interest in the outcome of the water rights litigation and issues affecting my equitable interests are pending before the California Supreme Court.
16. I also attempted to get similar data from Victor Valley Water District, the MWA and the City of Victorville. Each of these agencies, who allegedly will attempt to use the CEC document as an environmental equivalent document refused to respond to my data requests. They each took the position that since they were not "Parties" they did not have to respond.
17. As to HDPP, I attempted to use the "Motion to Compel" process, but only obtained from HDPP further sidestepping of my requests.
18. The agricultural community in the High Desert, and which the initial economy of the region was based, that has enjoyed farming along the Main Stem of the Mojave River over 00 years. In what the Judgement refers to as the Alto Basin [otherwise the Upper Basin], the majority of the farmers wells are in the "Flood Plain Aquifer", not the Regional Aquifer, produce water from Natures Free Water. However the municipal water districts have elected to develop a pattern of taking the water from the farming community without just compensation. Failing to recharge the water basins from municipal production is a material breach of the agreement that was

made with the farming community. Unless there is a two for one replacement of water all of the farmers and many of the municipal producers will have significantly higher water costs as a result of the approval of this project.

19. There appears to be a feeling that "IF" the CEC conditions the HDPP to sue only SWP water and if not available, either by storage or direct use that the Plant will shut down. Also that it is the "Risk" of HDPP. Common sense should tell us that HDPP, will attempt to cover that by "Contracts" subject to litigation. They will accept a conditional will serve letter. If one is forthcoming at the Hearings, it will be so riddled with two siding conditions if it were ever litigated it would take 30 years to figure out. The CEC has an obligation to insure that all [LORS] are identified and complied with.
20. Attached is my Direct Testimony, which I believe is supported by the record and substantial evidence and such additional testimony and/or exhibits to be presented at the hearing.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge and belief.

Executed this _____ day of September 1999, at Apple Valley, California.

Gary A. Ledford
Taxpayer

**DIRECT TESTIMONY OF GARY A LEDFORD
ON WET V. DRY COOLING
OR IN THE ALTERNATIVE USE OF
SUPPLEMENTAL WATER OR FREE PRODUCTION
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I. Introduction

As a new intervenor, Ledford sought to obtain information about the wet and dry cooling alternatives, the costs of the systems and other pertinent data, through the data request process.¹ Not only were the Data Requests ignored^{2 3}, Applicant objected to the requests stating the **"information is proprietary and not necessary for a decision in this matter and not relevant"**.⁴ As it turned out, The California Unions for Reliable Energy ("CURE"), had requested similar information. HDPP provided CURE with the data. CURE then evaluated the technical and economical feasibility for the High Desert Power Project ("HDPP" or "Project") to use Dry Cooling.⁵ The State Water Resources Control Board mandates the study of Dry Cooling in Power Plants proposing to use Wet Cooling.

Interested in the Dry Cooling concept, this Intervenor submitted an additional response to CURE's report providing additional information to bring the costs even more in line.⁶ CURE never responded to the supplemental information. (Intervenor is informed that their consultant never reviewed Intervenor's supplemental data.) Additionally, neither the Applicant or Staff ever responded to the comments made by CURE or Intervenor on the Dry Cooling topic.

Reference to the Energy Commission's public records show that Dry Cooling is becoming more and more the favored practice, as California's scarce water resources begin to dry up. Currently there is a new Power Plant that is under construction in Boulder City, Nevada. This project is very close to Colorado River Water, in a hot aired desert climate

¹ Ledford Data Request Number 1, Docket Number 10200, dated February 10th 1999
² HDPP, Response to Data Requests by Ledford dated February 25th 1999 and never served on Ledford.
³ Ledford Motion to Compel, dated March 22nd 1999
⁴ HDPP Response, Dated April 5th 1999, Docketed March 31st 1999
⁵ Cure's Preliminary analysis on Dry Cooling, including Exhibits, Docketed March 30th 1999, Dated March 30th 1999, Exhibit 118, in this proceeding.
⁶ Ledford Reply to CURE, Docket Number 10746, Dated April 4th 1999

that does not cool off at night.⁷ Recognizing the importance of Water in their state, the Nevada Energy Commission mandated Dry Cooling.

The first power project approved by the Energy Commission under the "New Rules" mandated Dry Cooling. The Sutter project, in the Yuba City area, is siting along the Sacramento River giving the appearance of abundant water in this area.

Only a few years ago the Mammoth Power Project was mandated to have Dry Cooling, because the residents were concerned about the Vapor Plume. That project, in Mammoth California, must be economical because it is built and running.

The newest project in the Energy Commission pipeline is the Otay Mesa Project. Located in the San Diego area, also a water critical area, the project proposes to use Dry Cooling.

Intervenor believes that HDPP has overstated its costs and operation estimates. Intervenor has used Dr. Fox's Report in preparing this testimony. So far CURE has stated that Dr. Fox will not be available to testify on this topic, however her Report has been entered as Exhibit Number 118 in this case without objection of CURE or HDPP.

In response to staff Data Requests, the Applicant presented an analysis of the cost of dry cooling technology. (HDPP Response to Staff DR ("SDR") 24, 25, 95-98 (March 11, 1998). The Applicant's analysis suggests that using dry cooling instead of wet cooling would increase the cost of electricity generated by the Project by \$1.16 per megawatt hour (\$1.16/MWH). Intervenor disagrees as forth herein. A more like assumption is that Dry Cooling could reduce electrical output, but not increase the cost of the power produced.

The Applicant's analysis appears to overestimate the capital cost of dry cooling. While the Applicant has made several project changes since preparing the Dry Cooling estimate, CURE's Report shows that by making only their recommended changes, the incremental cost of dry cooling drops from \$1.16/MWH to \$0.61/MWH. Intervenor believes, based on his experience in the construction industry, that the multiple application of units and the Competitive Bid Process will reduce those costs. It also appears that HDPP has overestimated the efficiency loss associated with dry cooling.

II. Overview of HDPP's Dry Cooling Analysis

The Applicant estimated the cost of dry cooling in dollars per megawatt hour ("\$/MWH"), which is equivalent to mills per kilowatt hour, by separately estimating the annual increase in fuel cost (\$2,780,170), capacity loss (\$1,446,129), and capital (\$2,752,000), and decrease in operating cost (\$1,191,489) due to dry cooling as compared

⁷ The High Desert in the Victor Valley Area enjoys a four season Climate, even in summer months where day time temperatures climb above 100 degrees, the nights cool down to the mid 60 degree temperatures. Three months out of the year the mean temperature is 75 degrees or less.

to wet cooling. HDPP then determined the incremental cost of dry cooling (in \$/MWH) by summing these four annual incremental costs and dividing the total annual incremental cost (\$5,786,810) by the average net plant power output for the 590F and 980F cases (AFC, Table A-4), assuming 7,008 hours of operation at 80% capacity. (SDR 98, Table 24-1.) It should be noted that HDPP has provided no response to CURE's Report or the Reply filed by this Intervenor.

TABLE 1
HDPP's Dry Cooling Cost Analysis

	<u>Incremental Cost (\$)</u>		
	Wet System	Dry System	Difference
Fuel Cost	0	2,780,170	2,780,170
Capacity Loss	0	1,446,129	1,446,129
Annual Capital	0	2,752,000	2,752,000
Annual Operation	1,191,489	0	-1,191,489
TOTAL COST (\$)	1,191,489	6,978,299	5,786,810
Incremental cost (\$/MWH)			1.16

III. Intervenor Ledford and CURE's Proposed Modifications to HDPP's Dry Cooling Analysis

The following analysis uses the Applicant's analysis as a baseline and identifies changes made with CURE's figures and that of Intervenor to HDPP's analysis. This approach does not necessarily mean that CURE or Intervenor agree with the portions of the HDPP analysis that are left unchanged. The following sections discuss each cost component used by HDPP and present the recommended changes.

A. Capital Costs

HDPP estimated the annual incremental capital costs as the difference between the cost of a dry cooling and a wet cooling system multiplied by a capital recovery factor of 0.16. (SDR 98, "Assumptions and Calculations.") Based on Intervenor's research and the CURE Report, Intervenor has modified these capital costs to account for changes in Project scope since March 1999, and to reflect actual vendor data for the dry cooling system. These changes decrease the incremental cost of dry cooling by **\$13.1 million** or **\$0.42/MWH**.

1. Wet Cooling System Capital Costs

HDPP estimated the cost of wet cooling as the sum of the costs for wet cooling towers (\$5.0 million), a water pipeline to the Mojave Water Aqueduct (\$0.4 million), a zero discharge treatment plant (\$7.5 million), and condenser, circulating pumps and piping (\$3.4 million). (SDR 24, 98.) The information currently in the record is not adequate to prepare engineering cost estimates. Thus, for the purpose of this estimate, Intervenor used the Applicant's estimate of wet cooling costs (\$16.3 million) as a baseline and added costs associated with major equipment and facilities added to the Project since HDPP's estimates were prepared in March 1999.

Since March 1999, the scope of the Project has changed to include a groundwater banking program. (BEE 11/98.) The proposed banking program includes a State Water Project ("SWP") water treatment plant (BEE 11/98, Fig. 7) and a well field. (BEE 11/98, p. 2-2.) The Applicant's dry cooling cost analysis did not include these two items. CURE estimated the capital cost of these two new components of the water supply system and added them to the total baseline capital costs of \$16.3 million previously reported by HDPP for other wet cooling system components. CURE states the cost of wet cooling increased from \$16.3 million to \$20.0 million. These changes alone reduce the incremental cost of dry cooling by \$0.12/MWH. Cost estimates for these two components are discussed below.

a. SWP Water Treatment System - For Use of Water in the Evaporative Cooling Towers

As Intervenor Understands the SWP Water Treatment Proposal as presented at the hearings on September 16th 1999, the "Project" has two water treatment systems, CURE only evaluated one of the Systems. The Project's proposed SWP water treatment system for the Plant Operation would be designed to treat 4,000 acre-feet per year ("AFY") of SWP water for the Cooling Towers only. This part of the system would be designed for the 100% consumptive use of water. The system proposed by the Applicant would include coagulation, a 4 million gallon per day ("MGD") package treatment system comprising an adsorption clarifier and mixed media filtration unit with granular activated carbon, and a 1.2 MGD reverse osmosis plant. (BEE 11/98, Fig. 7.) Nanofiltration may also be used to remove parasites. (BEE 11/98, p. 4-2.) Bookman-Edmonston Engineering estimated the cost of treating SWP water at \$400-\$600 per acre-foot, of which \$350-\$480 per acre-foot is for capital costs, and \$50-\$120 per acre-foot for energy, operation and maintenance, and treatment costs. (BEE 4/98, p. 4-12.) CURE selected the upper end of Bookman-Edmonston's estimated range, \$480/AF, to estimate capital costs for the proposed SWP treatment system. Intervenor believes that even these estimates are conservative. As discussed below, actual costs are more probably higher. Thus, for a design flow rate of 4,000 AFY the cost of the SWP treatment system would be \$1.9 million, or \$0.06/ MWH.

CURE selected the upper end of the Bookman-Edmonston capital cost range (\$480/AF) because the proposed treatment system includes reverse osmosis, which can cost up to \$1,000/AF, brine treatment, which typically costs \$700/ AF, and may also include Nanofiltration, which costs up to \$2,000/AF. (Lozier et al. 1997;8 Chellam et al. 1998.) The

upper end of the Bookman-Edmonston range probably underestimates capital costs for the Applicant's proposed treatment system. (BEE 11/98, p. 2-1 and Fig. 7.) A recently published estimate (AWWARF 1996) to treat water similar to SWP water (TDS = 400 mg/L) using reverse osmosis suggests that the RO portion of the system alone will cost \$1.7 million, compared to \$1.9 million estimated using the Applicant's unit cost for the entire treatment system (coagulation, filtration, reverse osmosis, brine treatment, and possibly nanofiltration). Thus, CURE believes that the actual cost of the proposed SWP treatment system for the Plant Operation only would be substantially higher than the upper end of Bookman-Edmonston's range.

Intervenor agrees, in fact in the Final Report prepared in 1990 by Malcolm Pirnie, at a substantial cost to the taxpayers of the MWA, the estimated capital costs for developing a treatment facility for 4,500 acre-feet per year in 1990 dollars was \$3.5 million. Since this was the report prepared by the MWA, Intervenor suggests that the most reliable evidence is this report.⁸ Since HDPP, has not disclosed its costs it is prudent that the numbers estimated by MWA be used.

b. SWP Water Treatment System - For Use of Water in Banking Water in a Well Field

As stated above, a "separate" water treatment plant is to be installed to treat SWP Water for Banking Purposes. Testimony at the hearings on September 16th 1999, disclosed the Project's second proposed SWP water treatment system for the Water Banking would treat 300 to 4,000 acre-feet per year ("AFY") of SWP water.

HDPP convinced Staff to reduce staff's proposed mitigation. Instead of placing 5 ,000 acre feet of water into the water bank prior to commercial start up, the new number is reduced to 2,000 acre feet. Further, HDPP, convinced staff that HDPP could have up to five years to place the 13,000 acre-feet of "Pre Banked Water". This does not make any sense, if HDPP, is to have a separate and stand alone water treatment facility for the proposed banking program.

For the purpose of this testimony, Intervenor assumes that the Banking System will emulate the Plant system proposed by the Applicant and would include coagulation, a 4 million gallon per day ("MGD") package treatment system comprising an adsorption clarifier and mixed media filtration unit with granular activated carbon, and a 1.2 MGD reverse osmosis plant. Nanofiltration may also be used to remove parasites. Bookman-Edmonston Engineering estimated the cost of treating SWP water at \$400-\$600 per acre-foot, of which \$350-\$480 per acre-foot is for capital costs, and \$50-\$120 per acre-foot for energy, operation and maintenance, and treatment costs. (BEE 4/98, p. 4-12.) Intervenor selected the upper end of Bookman-Edmonston's estimated range, \$480/AF, to estimate capital costs for the proposed SWP treatment system. Intervenor believes that even these estimates are conservative. As discussed below, actual costs are more probably

⁸ Final Report - Master Plan for the Delivery of Imported Water dated July 1990 - certified project no. 0551-07-1

higher. Thus, for a design flow rate of 4,000 AFY the cost of the SWP treatment system would be \$1.9 million, or \$0.06/ MWH.

The actual cost of the proposed combined SWP treatment system for the Plant Operation and the Banking Operation will be substantially higher than the upper end of Bookman-Edmonston's range, but for sake of this Testimony, Intervenor will use the \$1.9 million dollar figure, these two numbers combined is \$3.8 million or .12/MWH.

c. Well Field Capital Costs

HDPP would import and treat SWP water and then bank this water in the local aquifer using a well field consisting of six dual-purpose injection/ extraction wells and one backup well. The average installed capital cost reported by four separate banking programs consisting of at least six wells averaged \$255,000 per well, or \$480,000/MGD. (Pyne 1995, Table 6.1.) For HDPP's seven wells, the total capital cost to design, test, and install the well field would be \$1.8 million, or **\$0.06/MWH**. This however does not include the cost of acquiring Rights of Way, Fee title to the well sites, the cost of providing Power, telemetry or other conditions that are normally a part of a water distribution system.

For the Purposes of this testimony, the acquisition of all Right of Way, actual site development of each well site, including grading, paving, fencing, berming, landscaping, telemetry, underground utilities, pressure tanks and the like is conservatively estimated at \$1.0 million dollars, or .03/MWH.

While it still unclear exactly what "Test Equipment" and "Test Wells" will be required, those conditions are estimated at \$1.0 million dollars, or .03/MWH.

d. Zero Discharge Treatment System

The Applicant's wet cooling cost estimate includes a zero discharge treatment system designed to minimize water demand by treating and recycling cooling tower blowdown, HRSG blowdown, and other minor waste streams. (AFC, Sec. 3.4.8.5.) HDPP costed this system at \$7.5 million. However, the cost estimate did not identify the individual units and design parameters on which the estimate was based and as previously stated HDPP has refuses to provide this information.

At the time the Applicant developed this cost estimate, it was considering two types of crystallizers, a Calandria type crystallizer and a forced circulation ("FC") crystallizer. (AFC, p. 3.4-32.) The type of crystallizer the Applicant included in its zero discharge treatment system cost estimate is unknown, the Calandria crystallizer was assumed. This is because a Calandria crystallizer is significantly less expensive than an FC crystallizer, both from a capital and operating cost standpoint, and would be the type of crystallizer typically recommended by the vendor for a low-volume application such as HDPP.

Since the Applicant prepared its cost estimate, the CEC has proposed a condition of certification requiring that the Project use an FC crystallizer. Because HDPP only provided

a lump sum estimate for the entire zero discharge system, there is not enough information to revise HDPP's wet cooling cost estimate to reflect this apparent change.

e. Cost of Banked Water

The Applicant's wet cooling cost estimate does not include the capital cost of purchasing and processing the initial 13,000 acre feet of water in the proposed "Water Bank". At the August 26th 1999 Staff Workshop on the topic of Water, John Norman passed out the MWA Cost of Water.⁹

2. Dry Cooling System Capital Cost

HDPP estimated the cost of dry cooling as the sum of the installed costs of the air cooled condenser (\$32.0 million) and a reduced capacity (10% scale) zero discharge treatment plant (\$1.5 million). (SDR 24.) As discussed below, HDPP overestimated the cost of the dry cooling tower and included what appears to be an unnecessary zero discharge treatment plant.

a. Dry Cooling Tower

HDPP has refused to supply any vendor data, indicating this information is "Proprietary", so there is not way to validate the data to support its \$32.0 million estimate for the dry cooling tower. However, it stated that vendor quotes for equipment plus mechanical erection accounted for 87% of the estimated cost of the air cooled condenser. The remaining 13% of HDPP's \$32.0 million cost estimate was comprised of financing costs, sales tax, property tax, insurance, interest during construction, and contingencies. (SDR 97.)

To confirm HDPP's air-cooled condenser cost estimate; CURE obtained quotes from the three major vendors of air-cooled condensers, Balcke-Durr, GEA Power Cooling Systems, Inc., and Hamon Cooling Towers. Because CURE did not have HDPP's design basis for their air cooled condenser cost estimate, CURE has stated it asked Balcke-Durr, who supplied the dry cooling system for the Crockett Cogeneration Facility, to develop design criteria based on HDPP's GTPro output for the 501F configuration submitted in response to CDR 240.

Balcke-Durr established the following design criteria for a single 240 MW combustion turbine train: a total exhaust steam flow of 507,000 lbs/hr, an exhaust steam enthalpy of 1,047 Btu/lb, a turbine exhaust pressure of 2.665 inches of mercury absolute ("in HgA"), and an inlet air temperature of 590F. These design criteria were then used to obtain cost estimates for air cooled condensers from Balcke-Durr, GEA, and Hamon. CURE's correspondence with these vendors is included in Attachment A to this testimony for the sake of convince, this Attachment is part of admitted Exhibit 118.

⁹ MWA - Cost of Water, August 26th 1999 Exhibit "B" hereto

The cost estimates obtained by CURE from these three vendors range from \$5.5 to \$6.6 million for air-cooled condensers and \$1.5 million for mechanical erection for a single turbine train. Vendor budgetary quotes are included in Attachment B, also a part of Exhibit 118. Selecting the lowest bid, the total cost to install air-cooled condensers on three combustion turbine trains would be \$21.0 million. Using HDPP's estimate that miscellaneous installation costs are 13% of total capital costs (SDR 97), the total cost for a dry cooling system would be \$24.1 million. This represents a \$7.9 million net decrease from HDPP's capital cost estimate of \$32.0 million, and a \$0.25/MWH reduction in the incremental cost of dry cooling. Further, Intervenor believes that with proper value engineering and the competitive bid process that amount can be reduced by at least an additional 10%. Intervenor has also consulted the operator of the Mammoth Power Project and the engineering company that built its Dry Cooling System. Although at first very cooperative and agreeing to send out information, this company later recanted, stating such co-operation may interfere with their ability to negotiate a price on another proposed California project.

b. Unnecessary Zero Discharge System

HDPP's dry cooling cost estimate also included a zero discharge treatment system to treat cooling tower blowdown and other minor wastewater streams. (AFC, Table 3.4-8.) HDPP sized this system at 10% and costed it at 20% of the full-scale zero discharge treatment system for the wet cooling system. (SDR 24.) However, if the Project used dry cooling, it appears that the only wastewater streams that would be generated would be discharge water from the oil/water separator at 5 8pm (waste streams 26 and 29), evaporative cooler blowdown water at 12 8pm (waste stream 7), and HRSG blowdown water at 61 8pm (waste stream 15), which together comprise only 78 8pm. (AFC, Table B-3.) These streams are generally high quality waters with an average TDS concentration of 451 mg/L. (AFC, Table 3.4-8.)

CURE believed it would be much more economical to handle these waste streams by discharging them to the municipal sanitary sewer system along with the plant's sanitary sewage. (AFC, pp. 3.4-33, 5.11-14.) Further, these waste streams are not part of, nor are they relevant to, the comparison of dry and wet cooling systems. Therefore, CURE evaluated the cost of the zero discharge system from the dry cooling cost estimate. This reduces the cost of dry cooling by \$1.5 million or \$0.05/ MWH. For the purpose of this testimony, this Intervenor agrees.

B. Operating Costs

Wet cooling systems generally have higher operating costs than dry cooling systems due to the need to treat the cooling water and dispose of wastewater residuals. HDPP estimated the increase in operating costs for a wet cooling system compared to a dry cooling system as the sum of water costs (\$851,064/ yr) and chemical and residual disposal costs associated with treating cooling water (\$340,426/yr). (SDR 98, "Assumptions and Calculations.")

The Applicant's March 1998 analysis did not include operating costs for the SWP treatment system and the wellfield discussed above. HDPP's analysis was also based on a flow rate of 3,404 AFY, rather than 4,000 AFY, which is the Project's current design basis. Further, an additional 300 AFY will be required each year when no SWP is available and an estimated 400 AFY to make up the decay rate in the Water Bank. These changes **increase the total operating costs** for a wet cooling system from \$1.19 million to \$1.26 million and reduce the incremental cost of dry cooling by \$0.13 discussed below.

1. Cost of Purchasing SWP Water

HDPP estimated the cost of water delivered to the Project based on a water usage rate of 4,000 AFY valued at \$300 per acre-foot ("AF"). Further, the actual cost of SWP water delivered to the Mojave Water Agency is \$297.39/ AF rather than \$250/ AF. (DOOR 1997.) Therefore, revised the water purchase cost from \$0.85 million to \$1.2 million.

In addition, HDPP must extract and replace at least 300 AFY from the Water Bank during times when SWP water is not available. Finally, HDPP, must replace any decay or "unrecoverable water" from the water bank. For purposes of this testimony, Intervenor is estimating 10% or 400 AFY.

Total Costs of SPW will be \$1.45 million if a 2 to one replacement cost is not implemented.

2. Cost of Purchasing SWP Water with consideration to the MWA 100% Replacement Water Requirement

HDPP estimated the cost of water delivered to the Project based on water on purchasing 100% consumptive use water, with no positive benefit to the water basin. This theory defeats the "Replacement Water" provision within the MWA Adjudication wherein all parties to the Judgment are to be treated alike. In this case HDPP will get preferential treatment. This will start an onslaught of applications for other producer to get "Special Treatment". The entire theory that the basin will be brought in to balance with "Replacement Water" at a 50% average consumptive use rate and the "Return Flows" would then eventually balance the basin would be defeated.

The MWA is currently discussing the issue of 100% consumptive use for this project and an alternate pricing plan. While not specifically discussed in the cost evaluation, it would appear that either HDPP would have to pay for twice as much water, in order to comply with the "Replacement Water" provisions of the Judgment.

3. Costs of Treating Banked SWP Water

As discussed above, HDPP intends to treat imported SWP water before it is banked. HDPP did not include operating costs for treating this water in its March 1998 analysis. At this point, it is unclear whether HDPP's SWP water treatment facility would operate continuously to pretreat both feed water to the power plant and banked water, or only

intermittently to treat banked water. For the purpose of this preliminary analysis, CURE assumed the SWP water treatment facility would only operate intermittently to treat banked water.

HDPP's plan is to bank water at the rate of 4,000 AFY during the first three years and one to three months out of every year thereafter following shutdowns due to maintenance of the California Aqueduct and to cure any decay in the water bank. This figure is currently being established to assure that there is no change in gradient in the Mojave River riparian zone. CURE conservatively assumed that system losses are only 10% of the amount initially banked. This yields a long-term, annual average flow rate through HDPP's SWP water treatment system for a 30-year Project life of about 800 AFY. According to Bookman-Edmonston, the operation costs to treat SWP water range from \$50/AF to \$120/AF. (BEE 4 / 98, p. 4-12.) Because the proposed treatment system includes a reverse osmosis unit, which is expensive to operate due to high energy demand, membrane replacement, and brine treatment and disposal, CURE selected and Intervenor agrees that the upper end of this range for this analysis. Therefore, annual operation costs to treat SWP water would be about \$0.1 million.

CURE noted, however, that Bookman-Edmonston might have substantially underestimated these costs. The operation and maintenance costs for a 1.0 MGD reverse osmosis facility alone is reported to be \$1.64 per thousand gallons of water treated (\$1.64/kgal), which is equivalent to \$534/AF. (AWWARF 1996, Table 9.9.) Therefore, the operation costs for reverse osmosis alone would be \$0.4 million. Nevertheless, to avoid underestimating the cost of dry cooling, we have used the lower end of Bookman-Edmonston's range for this preliminary analysis.

4. *Operating Costs Associated with Banking Program*

The banking program requires that water be injected into the aquifer at a rate of 4,000 AFY during the first three years (plus an assumed 10% for system losses) and one to three months per year during maintenance of the California Aqueduct over the 30 year life of the Project and the decay of the Water Bank. As discussed above, this amounts to an average annual injection rate of about 800 AFY. Typical operating costs for other California banking programs range from \$175/AF for the SemiTropic Water Storage District to \$220/ AF for the Arvin-Edison Water Storage District. Using the median of this range, the cost to operate the banking program is \$0.2 million per year. In addition, you must add to this cost of the cost of monitoring and testing the entire system and the administration of this, which for sake of estimating is calculated at \$0.2 million per year.

IV. Summary of Revisions to HDPP's Analysis

The results of CURE's analysis, along with the results of Ledford's conclusions, compared with both CURE and HDPP are shown in Exhibit "A". The revised incremental cost of HDPP using dry cooling shows that even without a 2 for 1 replacement of water it is less expensive to use Dry Cooling than Wet Cooling.

V. Alternate Use of Adjudicated Water Rights or Straight Replacement Water

1. Replacement Water

The Alternative of using the purchase of Base Annual Production Rights have never been fully explored, (although mentioned on several occasions by this Intervenor). By way of example, the High Desert Power project could in theory drill wells on their 25 acres. And assuming that water is available from these wells, HDPP could produce their entire entitlement from these wells and only have to pay the prevailing rate from the MWA.

In order to get water from the aquifer, they would have to go through the perched water, which is contaminated, and of course they would have to stipulate to the Judgment and comply with all of its terms. Even if they had to pay the 2 for 1 rate, this alternative would be less expensive than the banking and treatment program. Intervenor, cannot figure out why these business people would not have evaluated this alternative

2. Base Annual Production Rights

HDPP could purchase Base annual Production Rights, currently in the Alto Basin; Victor Valley Water District is paying \$1,250 per acre-foot. This appears to be a bargain basement price. When the MWA, purchased the Berrenda Mesa Entitlement they paid \$1,000 per acre-foot for entitlement water. Since at best only 70% of that water can be delivered in any year, the best value [in the ground] is closer to \$1,500 per acre-foot. Then there is the cost to the MWA annually for the increased entitlement, and if the water is delivered a delivery cost. Estimates range from \$300 to \$950 per acre-foot to deliver the Berrenda Mesa Water.¹⁰ Capitalizing the Cost at 10%, the value of the Berrenda Mesa Water in present dollars is between \$3,000 per acre-foot to \$9,500 per acre-foot. There is also no guarantee that in any one year or in drought years this water will be available.

High Desert Power could go one-quarter mile to the east of their project site, and be in the "Main Flood Plain Aquifer". This area is recharged annually and could be easily recharged from the Mojave River Pipeline. This natural or artificial recharge does not require "Treatment".

For sake of an estimate, if HDPP purchased 10,000 acre feet of Base Annual Production Rights for say \$2,000 per acre-foot,[Still a super Bargain] the total Cost would be \$20 million. If the 20% ramp down was the maximum amount of ramp down, this would give HDPP 8,000 acre feet of entitlement, conforming to the 2 to 1 replacement criteria set out in the Judgment. This means that HDPP could pump 4,000 acre feet of water for their plant for "FREE" each and every year for the next 30 years, only paying annual water master assessments.

¹⁰ Handout from MWA on Costs August 26th 1999 at CEC Water Workshop

At the end of the 30 year life of the project, the Water Rights would have increased in value; in fact many think the \$9,500 figure is easily obtainable by that time. That would mean their \$20.0 million investment would be worth \$95.0 million.

Unless HDPP knows something that the rest of the Well Producers do not know, this seems like the best business decision they could make.

FINDINGS OF FACT

1. The project's potential demand for water affects surface and groundwater supplies in an area of severe groundwater overdraft, not subject to any natural recharge;[CEC Staff] [MWA] [EIR - George reuse] [Fox- CURE] [Ledford]
2. Groundwater overdraft within the Alto Subarea in 1990 was 19,900-acre feet per year. [MWA]
3. If Wet Cooling is used 100% of the water used in the Cooling Towers will be consumptively Used.[CURE][CEC Staff][Ledford][Badly Mesa]
4. The use of Water for Cooling Towers in a Critically Overdrafted Ground Water Basin, when the overdraft has not be cured is not the Highest and Best Use of Water.[Ledford] [VVWD Brief to supreme Court] [Article X Section 2 California Constitution]
5. According to the evidence before this commission there will not be enough Water available from the SWP to meet the demands of curing the overdraft and future growth in the Victor Valley based on existing MWA Contracts.[MWA] [Beebe] [Bookman-Edmonston] [Malcolm Pirnie] [Decision 1619] [Judgement after Trial]
6. Part of the Cure to the Overdraft in the Judgment for the Adjudication of Water Rights is a "Two for One" replacement of water. [Dendy] [Hansen] [Principals of the Physical Solution] [Ledford] [Replacement Water Defined in the Judgment]
7. The High Desert Power Project may be allowed to use State Project Water, on an interim and interruptible basis only if it is obligated to pay the Two for One replacement cost.[MWA] [Rowe] [Ledford] [Badly Mesa]
8. The Commission has the obligation as the Lead Agency to insure that the Victor Valley Water District has the ability to serve this project, and has provided un-refutable evidence that it has cured it's already serve overdraft condition. [Settlement Agreement with MWA/VVEDA]
9. The commission cannot approve a project that does not have a fully unconditional "Will Serve" letter to provide uninterrupted water for this project. The contrary is to submit either the project to potential failure or the public to environmental consequences as the courts wrangle whether or not the plant should be shut down. [Settlement Agreement MWA/VVEDA]
10. The commission should mandate "Dry Cooling" for all future projects in California, because the cumulative impacts of evaporating water to the atmosphere and denying water to the residents of this state is not the Highest and best Use of Water Resources.

11. The evidence in this case shows that "mining" of water by VVWD will lead to degradation of surface and groundwater quality in a regional ground water aquifer;

The use of water as proposed by HDPP is not in compliance with all applicable laws, ordinances and standards [including the standards set forth in the Judgment for a Physical Solution to cure the overdraft.

CONCLUSIONS AND RECOMMENDATIONS

CEC Staff has concluded that allocation of SWP imported water supply to the project will cause a significant environmental impact unless the overdrafted conditions in the vicinity are mitigated to a level of non-significance.

There is simply no assurance that can be done. In fact CEC Staff acknowledges that there is no mechanism to secure a long-term commitment of SWP water to the project.

Based on the Report prepared by CURE and the analysis of this Intervenor, it is evident that Dry Cooling should be the economical means of cooling this project. Given increased demand for SWPP water, prolonged drought or court decisions regarding the adjudication, the project will not always be able to secure SWP water.

Based on the foregoing conclusions and recommendations and findings of fact, DRY COOLING should be mandated as a condition for certification of the HDPP.

Furthermore, the California Energy Commission should implement a "Cumulative Impacts Analysis of the Potential Impacts of using SWP Water in any new Power Plant Project, based on the Highest and Best Use of this valuable resource that is owned by the Public.

Gary A. Ledford
11401 Apple Valley Road
Apple Valley, California 92308
(760)-240-1111
Fax (760)-240-3609

STATE OF CALIFORNIA

Energy Resources Conservation
And Development Commission

In the Matter of:)	Docket No. 97-AFC-1
)	
)	
The Application for Certification)	PROOF OF SERVICE
For the High Desert Power Project [HDPP])	
_____)	

I Kathie Mergal declare that on _____, I deposited copies of the attached **DIRECT TESTIMONY OF GARY A LEDFORD ON WET COOLING V. DRY COOLING AND EXHIBITS** in the United States mail in Apple Valley California with first class postage thereon fully prepaid and addressed to the following:

Signed original document plus 11 copies to the following address:

California Energy Commission
Docket Unit
1516 Ninth Street, MS 4
Sacramento, CA 95814

In addition to the documents sent to the Commission Docket Unit, individual copies of all documents were sent to:

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High Desert Power Project LLC
250 West Pratt Street
Baltimore, MD 21201-2423

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Vice President and Project Manager
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Resource Management International, Inc.
3100 Zinfandel Dr. Ste. 600
Sacramento, CA 95670-6026

Janine G. Kelly
Envirosense
19257 Dunbridge Way
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Intervenors

California Unions for Reliable Energy (CURE)
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Adams, Broadwell & Joseph
651 Gateway Blvd., Ste 900
So. San Francisco, CA 94080

Christopher T. Ellison
Ellison & Schneider
2015 H Street
Sacramento, CA 95814

Carolyn A. Baker
Edson & Modisette
925 L Street, Ste. 1490
Sacramento, CA 95814

Interested Parties

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1516 Ninth Street
Sacramento, CA 95814

Steven M. Marvis
California Independent System Operator
151 Blue Ravine Road
Folsom, CA 95630

Curt Taucher
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Robert Giorgis, project Assessment Branch
P.O. Box 2815, 2020 L Street
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Added 3/21/99
Charles Fryxell
Air Pollution Control Officer
Mojave Desert AQMD
15428 Civic Drive, Suite 200
Victorville, CA 92392

Brad Foster
3658 O'Banion road
Yuba City, CA 95993

Interested Organizations

Southern California Edison
Attn: Ted H Heath, P.E.
2131 Walnut Grove Avenue
Rosemead, CA 91770

I declare under penalty of perjury that the foregoing is a true and correct.

Kathie Mergal

Exhibit "B"

COST OF STATE WATER PROJECT WATER

Jack you need a serious workshop - Gary

	Brenda Mesa Water			SWP Basic Entitlement			Maximum Amount of Water Deliverable	
	25,000.0			50,000.0			75,000	
	70%			70%				
Maximumn amount of Water Deliverable Annually	17,500			35,000			52,500	
SWP Variable Costs	\$ 1,752,625	10%		\$ 3,505,250	22%		5,257,875	
Per Acre-Foot	\$ 100.15			\$ 100.15		\$	100.15	
SWP Variable Costs	\$ 9,284,275	52%		\$ 9,319,450	60%		18,603,725	
Per Acre-Foot	\$ 530.53			\$ 266.27		\$	354.36	
Subtotal SWP Costs	\$ 11,036,900	62%		\$ 12,824,700	82%		23,861,600	
Per Acre-Foot	630.68			366.42			454.51	
MWA O&M	\$ 348,000	2%		\$ 348,000	2%		696,000	
Per Acre-Foot	\$ 19.89			\$ 9.94		\$	13.26	
Brenda Mesa Debt Service	\$ 2,863,357	16%		\$ -	0%		2,863,357	
Per Acre-Foot	\$ 163.62			\$ -		\$	54.54	
MWA Depreciation/Admin.	\$ 2,000,000	11%		\$ 1,000,000	6%		3,000,000	
Per Acre-Foot	\$ 114.29			\$ 28.57		\$	57.14	
Sub-Total MWA Costs	\$ 5,211,357	29%		\$ 1,348,000	9%		6,559,357	
Per Acre-Foot	\$ 297.79			\$ 38.51		\$	124.94	
Total Cost of Brenda Mesa Water	\$ 16,248,257	91%	Basic Entitlement Water	\$ 14,172,700	91%		30,420,957	
Per Acre-Foot	\$ 928.47			\$ 404.93		\$	579.45	
Mark-up at 10%	\$ 1,624,826	9%		\$ 1,417,270	9%		3,042,096	
Per Acre-Foot	\$ 92.85			\$ 40.49		\$	57.94	
Total Annual Cost of Brenda Mesa Water	\$ 17,873,083	100%		\$ 15,589,970	100%		33,463,053	
Per Acre-Foot	\$ 1,021.32			\$ 445.43		\$	637.39	
Value of Water Delivered:	\$ 10,213	Acre-Foot				\$	6,374	
Average Customers	90,000			90,000			125,000	
Average Cost Per Customer	\$ 198.59	\$ 16.55		\$ 173.22	\$ 14.44	\$	267.70	\$ 22.31

**PROPOSED MODIFICATION TO HDPP'S
Dry Cooling Cost Anyalysis
LEDFORD EXHIBIT "A"**

Capital Costs	Capital Costs			Cost Per MWH		
Wet System	HDPP	CURE	LEDFORD	HDPP	CURE	LEDFORD
Wet System Cooling Towers	5.00	5.00	5.00	0.16	0.16	0.16
Pipeline to Mojave Aqueduct	0.40	0.40	0.70	0.01	0.01	0.02
Zero Discharge Treatment Plant	7.50	7.50	7.50	0.24	0.24	0.24
Condenser, Pumps and Piping	3.40	3.40	3.40	0.11	0.11	0.11
Injection Wellfield	-	1.80	1.80	-	0.06	0.06
Purchase 13,000 AF SWP @ \$300.00 AF	-	-	4.00	-	-	0.13
SWP Water Treatment System - Plant	-	1.90	1.90	-	0.06	0.06
SWP Water Treatment System - Banking	-	-	1.90	-	-	0.06
Pre-Treat Banked Water	-	-	2.40	-	-	0.08
Acquisition of Land - Right of Water - Development	-	-	1.00	-	-	0.03
Test Wells and Related Equipment	-	-	1.00	-	-	0.03
	-	-	-	-	-	-
Total Wet Capital Cost:	16.30	20.00	30.60	0.53	0.65	1.00
Dry System						
Dry Cooling system plus Erection	27.80	21.00	19.00	0.91	0.69	0.62
Miscellaneous Installation 13%	4.20	3.10	2.47	0.14	0.10	0.08
Zero Discharge Treatment System	1.50	-	-	0.05	-	-
Total Dry Capital Cost:	33.50	24.10	21.47		0.31	0.39
Acquisition of Base Annual Production Allowance						
Acquire Land:	-	-	0.50	-	-	0.02
Purchase 10,000 AF FPA @ \$2,000 AF	-	-	20.00	-	-	0.02
Install Wells	-	-	0.50	-	-	0.02
Install Pipeline	-	-	0.80	-	-	0.03
Annual MWA Fees	-	-	0.30	-	-	0.01
	-	-	21.80	-	-	0.08
Operating Costs						
Wet System						
SWP Water Cost - Plant	0.85	1.20	1.20	0.03	0.04	0.04
Cooling Water Treatment & Disposal	0.34	0.34	0.34	0.01	0.01	0.01
SWP Water Treatment	-	0.10	0.15	-	0.003	0.005
SWP Replacment of 300 AFY	-	-	0.10	-	-	0.003
SWP Restoration of Bank Decay 400 AFY	-	-	0.15	-	-	0.005
Operation of Banking Program	-	0.20	0.45	-	0.01	0.01
Total Operating Costs:	1.19	1.84	2.39	0.04	0.06	0.08
Base Annual Production						
MWA Fees	-	-	0.01	-	-	0.00
O/M Well Field	-	-	0.03	-	-	0.00
	-	-	-	-	-	-
	-	-	0.04	-	-	0.00
Base annual Production:	34.69	25.94	45.70	0.04	0.37	0.55
ALTERNATIVE USE OF BASE ANNUAL PRODUCTION						0.08
Water Rights is an Appreciating Asset						

Gary A. Ledford
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(760)-240-1111
Fax (760)-240-3609

In Pro per

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Energy Resources Conservation
And Development Commission

In the Matter of:)	Docket No. 97-AFC-1
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)	
The Application for Certification)	
For the High Desert Power Project [HDPP])	
)	
_____)	

HIGH DESERT POWER PROJECT

97-AFC-01

EXHIBIT

SWRCB - Beneficial Uses

DOCKETT NUMBER _____

**DECLARATION OF
GARY A. LEDFORD**

I, Gary A. Ledford, declare as follows:

1. I am citizen and resident of the State of California, Town of Apple Valley. For at least the last fifteen years I have paid taxes on real estate situated in the High Desert and under the jurisdiction of the Mojave Water Agency (hereinafter "MWA").
2. I intervened in 97-AFC-1 and am a bonafide party.
3. I am docketing a Proposed Exhibit, identified as Draft Issue Memo Regarding Beneficial Uses for Ground and Surface Waters within the Mojave Watershed.
4. The attached is a true and correct copy of certain pages from the Exhibit that I received.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge and belief.

Executed this _____ day of September 1999, at Apple Valley, California.

Gary A. Ledford
Taxpayer

Gary A. Ledford
11401 Apple Valley Road
Apple Valley, California 92308
(760)-240-1111
Fax (760)-240-3609

STATE OF CALIFORNIA

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I Kathie Mergal declare that on _____, I deposited copies of the attached **INTERVENOR LEDFORD'S EXHIBIT[S]**, in the United States mail in Apple Valley California with first class postage thereon fully prepaid and addressed to the following:

Signed original document plus 11 copies to the following address:

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Sacramento, CA 95814

In addition to the documents sent to the Commission Docket Unit, individual copies of all documents were sent to:

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19257 Dunbridge Way
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So. San Francisco, CA 94080

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Attn: Ted H Heath, P.E.
2131 Walnut Grove Avenue
Rosemead, CA 91770

I declare under penalty of perjury that the foregoing is a true and correct.

Kathie Mergal

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(760)-240-1111
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The Application for Certification)	
For the High Desert Power Project [HDPP])	
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HIGH DESERT POWER PROJECT

97-AFC-01

EXHIBIT

Cauoette E-Mail
"Our Ordinance Requires CEQA"

DOCKETT NUMBER _____

DECLARATION OF GARY A. LEDFORD

I, Gary A. Ledford, declare as follows:

1. I am citizen and resident of the State of California, Town of Apple Valley. For at least the last fifteen years I have paid taxes on real estate situated in the High Desert and under the jurisdiction of the Mojave Water Agency (hereinafter "MWA").
2. I intervened in 97-AFC-1 and am a bonafide party.
3. I am docketing a Proposed Exhibit, identified as E-Mail from Norm Cauoette and docketed on April 14, 1999.
4. This Document is a Public Records Documents and available through the CEC.
5. I received a copy of this document from the CEC.
6. The Document firmly states that Ordinance Number 9, requires CEQA and that MWA intends to rely upon the CEC for a CEQA Equivalent Document. However the MWA has yet to comment on any condition proposed by the CEC, and the MWA Board of Directors has yet to take any action approving any mitigation measures that are currently proposed.
7. The attached is a true and correct copy of certain pages from the Exhibit that I received.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge and belief.

Executed this _____ day of September 1999, at Apple Valley, California.

Gary A. Ledford
Taxpayer

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Apple Valley, California 92308
(760)-240-1111
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I declare under penalty of perjury that the foregoing is a true and correct.

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HIGH DESERT POWER PROJECT

97-AFC-01

EXHIBIT

**Certificates of Participation \$26,290,000
Berrenda Mesa 25,000 AFY - SWP Water**

DOCKETT NUMBER _____

DECLARATION OF GARY A. LEDFORD

I, Gary A. Ledford, declare as follows:

1. I am citizen and resident of the State of California, Town of Apple Valley. For at least the last fifteen years I have paid taxes on real estate situated in the High Desert and under the jurisdiction of the Mojave Water Agency (hereinafter "MWA").
2. I intervened in 97-AFC-1 and am a bonafide party.
3. I am docketing a Proposed Exhibit, identified as Selected Pages from Certificates of Participation for the acquisition of 25,000 AFY of State Project Water Entitlements.
4. This Document is a Public Records Documents and available through the MWA.
5. I received a copy of this document from the MWA during the approval of these Certificates.
6. The MWA makes payments on these certificates in the amount of approximately \$2,600,000 per year for principal and interest.
7. The maximum amount of water that the MWA can receive from this additional entitlement is 17,500 acre feet per year.
8. To date the MWA has no delivered any of the Berrenda Mesa Water.
9. The annual cost, to the taxpayers of the MWA, for this new "Stand-by" water is \$148.00 per year at its point of origin.
10. In addition to this the MWA pays an "Allocation Cost" for this Berrenda Mesa Water for the Fair Shared Costs of the Aqueduct. My estimate is that this adds an additional \$75.00 per acre foot, even if the water is not delivered.
11. On top of the fixed costs in paragraph 10 and 11, there is then the cost of delivery. Delivering the water costs at least an additional \$100 AF.
12. The combined total cost to MWA, before the direct cost of overhead of the agency is at least \$275.00 per acre-foot.
13. The investors of these certificates were advised that this State Water Project water was being acquired to "remedy the overdraft of ground water in the Mojave River Basin" . . . "the watermaster has the responsibility to administer the physical solution to the overdraft problem". . . "the **agency has responsibility to alleviate overdraft**

by promoting conservation, planning for long term supply, and purchasing supplemental water from outside the basin" page 2.

14. The attached is a true and correct copy of certain pages from the Exhibit that I received.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge and belief.

Executed this _____ day of September 1999, at Apple Valley, California.

Gary A. Ledford
Taxpayer

Gary A. Ledford
11401 Apple Valley Road
Apple Valley, California 92308
(760)-240-1111
Fax (760)-240-3609

STATE OF CALIFORNIA

Energy Resources Conservation
And Development Commission

In the Matter of:)	Docket No. 97-AFC-1
)	
)	
The Application for Certification)	PROOF OF SERVICE
For the High Desert Power Project [HDPP])	
_____)	

I Kathie Mergal declare that on _____, I deposited copies of the attached **INTERVENOR LEDFORD'S EXHIBIT[S]**, in the United States mail in Apple Valley California with first class postage thereon fully prepaid and addressed to the following:

Signed original document plus 11 copies to the following address:

California Energy Commission
Docket Unit
1516 Ninth Street, MS 4
Sacramento, CA 95814

In addition to the documents sent to the Commission Docket Unit, individual copies of all documents were sent to:

R.L. (Rick) Wolfinger, Vice President
High Desert Power Project LLC
250 West Pratt Street
Baltimore, MD 21201-2423

Thomas M. Barnett
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Sacramento, CA 95670-6026

Janine G. Kelly
Envirosense
19257 Dunbridge Way
Gaithersburg, MD 20879

Intervenors

California Unions for Reliable Energy (CURE)
Marc D. Joseph
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So. San Francisco, CA 94080

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Interested Parties

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Added 3/21/99
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Air Pollution Control Officer
Mojave Desert AQMD
15428 Civic Drive, Suite 200
Victorville, CA 92392

Brad Foster
3658 O'Banion road
Yuba City, CA 95993

Interested Organizations

Southern California Edison
Attn: Ted H Heath, P.E.
2131 Walnut Grove Avenue
Rosemead, CA 91770

I declare under penalty of perjury that the foregoing is a true and correct.

Kathie Mergal

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(760)-240-1111
Fax (760)-240-3609

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In the Matter of:)	Docket No. 97-AFC-1
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The Application for Certification)	
For the High Desert Power Project [HDPP])	
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HIGH DESERT POWER PROJECT

97-AFC-01

EXHIBIT

111

**Regional Water Management Plan
Bookman Edmonston - Beebe**

DOCKETT NUMBER _____

**DECLARATION OF
GARY A. LEDFORD**

I, Gary A. Ledford, declare as follows:

1. I am citizen and resident of the State of California, Town of Apple Valley. For at least the last fifteen years I have paid taxes on real estate situated in the High Desert and under the jurisdiction of the Mojave Water Agency (hereinafter "MWA").
2. I intervened in 97-AFC-1 and am a bonafide party.
3. I am docketing an Exhibit, identified as MWA Regional Water Management Plan, identified by the CEC as Exhibit 111 in this proceeding. This is a Public Document and may be obtained from the MWA.
4. The attached is a true and correct copy of the Exhibit

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge and belief.

Executed this _____ day of September 1999, at Apple Valley, California.

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Taxpayer

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Interested Organizations

Southern California Edison
Attn: Ted H Heath, P.E.
2131 Walnut Grove Avenue
Rosemead, CA 91770

I declare under penalty of perjury that the foregoing is a true and correct.

Kathie Mergal

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For the High Desert Power Project [HDPP])	
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HIGH DESERT POWER PROJECT

97-AFC-01

EXHIBIT

**Declaration of Larry in Support of
Judgement**

DOCKETT NUMBER _____

**DECLARATION OF
GARY A. LEDFORD**

I, Gary A. Ledford, declare as follows:

1. I am citizen and resident of the State of California, Town of Apple Valley. For at least the last fifteen years I have paid taxes on real estate situated in the High Desert and under the jurisdiction of the Mojave Water Agency (hereinafter "MWA").
2. I intervened in 97-AFC-1 and am a bonafide party.
3. I am docketing a Proposed Exhibit, identified as Declaration of Larry Rowe in support of Entry of Interlocutory Decree of Judgment.
4. The attached is a true and correct copy of the Exhibit that I received during the course of the litigation of Water Rights in this case.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge and belief.

Executed this _____ day of September 1999, at Apple Valley, California.

Gary A. Ledford
Taxpayer

Gary A. Ledford
11401 Apple Valley Road
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(760)-240-1111
Fax (760)-240-3609

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Yuba City, CA 95993

Interested Organizations

Southern California Edison
Attn: Ted H Heath, P.E.
2131 Walnut Grove Avenue
Rosemead, CA 91770

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Kathie Mergal

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(760)-240-1111
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The Application for Certification)	
For the High Desert Power Project [HDPP])	
_____)	

HIGH DESERT POWER PROJECT

97-AFC-01

EXHIBIT

**Settlement Agreement with VVEDA
Requiring an EIR**

DOCKETT NUMBER _____

DECLARATION OF GARY A. LEDFORD

I, Gary A. Ledford, declare as follows:

1. I am citizen and resident of the State of California, Town of Apple Valley. For at least the last fifteen years I have paid taxes on real estate situated in the High Desert and under the jurisdiction of the Mojave Water Agency (hereinafter "MWA").
2. I intervened in 97-AFC-1 and am a bonafide party.
3. I am docketing a Proposed Exhibit, identified as Agreement for Cooperation Between Mojave Water Agency and The Victor Valley Economic Development Authority [VVEDA]. The agreement requires in part:

"Section 5. Water Issues. With respect to the water issues which have been raised by the Agency and which are anticipated to arise in connection the implementation of the 1993 Redevelopment Plan the Parties hereby agree as follows:

a. VVEDA **shall comply** with the California Environmental Quality Act ("CEQA") with respect to the 1993 Redevelopment Plan and **shall evaluate each individual project to be undertaken in connection with the implementation of the 1993 Redevelopment Plan and which may in any way impact upon water resources, directly or indirectly, for its growth inducing potential and its impact on local water resources. VVEDA shall not approve any project unless available water resources of the project are adequate to meet projected demand of the project.**"

4. The attached is a true and correct copy of the Exhibit that I received during the course of the litigation of Water Rights in this case.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge and belief.

Executed this ____ day of September 1999, at Apple Valley, California.

Gary A. Ledford
Taxpayer

Gary A. Ledford
11401 Apple Valley Road
Apple Valley, California 92308
(760)-240-1111
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STATE OF CALIFORNIA

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Interested Organizations

Southern California Edison
Attn: Ted H Heath, P.E.
2131 Walnut Grove Avenue
Rosemead, CA 91770

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Kathie Mergal

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HIGH DESERT POWER PROJECT

97-AFC-01

EXHIBIT

115

USGS Report 95-4189

**Ground - Water and Surface - Water
Relations along the Mojave River,
Southern California**

DOCKETT NUMBER _____

**DECLARATION OF
GARY A. LEDFORD**

I, Gary A. Ledford, declare as follows:

1. I am citizen and resident of the State of California, Town of Apple Valley. For at least the last fifteen years I have paid taxes on real estate situated in the High Desert and under the jurisdiction of the Mojave Water Agency (hereinafter "MWA").
2. I intervened in 97-AFC-1 and am a bonafide party.
3. I am docketing an Exhibit, identified as Ground-Water and Surface-Water Relations along the Mojave River, Southern California, identified by the CEC as Exhibit 115 in this proceeding. This is a Public Document and may be obtained from the MWA or the USGS.
4. The attached is a true and correct copy of the Exhibit

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge and belief.

Executed this _____ day of September 1999, at Apple Valley, California.

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Taxpayer

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HIGH DESERT POWER PROJECT

97-AFC-01

EXHIBIT

112

**Master Plan for the Delivery of Water
Malcolm Pirnie - 1990**

DOCKETT NUMBER _____

**DECLARATION OF
GARY A. LEDFORD**

I, Gary A. Ledford, declare as follows:

1. I am citizen and resident of the State of California, Town of Apple Valley. For at least the last fifteen years I have paid taxes on real estate situated in the High Desert and under the jurisdiction of the Mojave Water Agency (hereinafter "MWA").
2. I intervened in 97-AFC-1 and am a bonafide party.
3. I am docketing an Exhibit, identified as Master Plan for the Delivery of Water, selected pages, identified by the CEC as Exhibit 112 in this proceeding. This is a Public Document and may be obtained from the MWA.
4. The attached is a true and correct copy of the Exhibit

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge and belief.

Executed this _____ day of September 1999, at Apple Valley, California.

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Energy Resources Conservation
And Development Commission

In the Matter of:)	Docket No. 97-AFC-1
)	
)	
The Application for Certification)	
For the High Desert Power Project [HDPP])	
_____)	

HIGH DESERT POWER PROJECT

97-AFC-01

EXHIBIT

Water Quality Control Policy

DOCKETT NUMBER _____

DECLARATION OF GARY A. LEDFORD

I, Gary A. Ledford, declare as follows:

1. I am citizen and resident of the State of California, Town of Apple Valley. For at least the last fifteen years I have paid taxes on real estate situated in the High Desert and under the jurisdiction of the Mojave Water Agency (hereinafter "MWA").
2. I intervened in 97-AFC-1 and am a bonafide party.
3. I am docketing a Proposed Exhibit, identified as Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Powerplant Cooling.
4. This Document is a Public Records Documents and available through the CEC.
5. I received a copy of this document from the CEC.
6. The CEC is mandated to comply with [LORS] Policies of the State of California.

This Policy clearly states:

- a. There is a limited supply of inland water resources in California
 - b. Basin planning conducted by the State Board has shown that there is no available water for new allocation in some basins.
 - c. Projected future water demands when compared to existing developed water supplies indicate that general fresh-water shortages will occur in many areas of the State prior to the year 2000.
 - d. The use of inland waters for powerplant cooling needs to be carefully evaluated to assure proper future allocation of inland waters considering all other beneficial uses.
 - e. The loss of inland waters through evaporation in powerplant cooling facilities may be considered an unreasonable use of inland waters when general shortages occur.
7. The following key policy is reverent in this siting case.
 - a. "In considering issuance of a permit or license to appropriate water for powerplant cooling, the Board will consider the reasonableness of the proposed water use when compared with other present and future needs for the water source and when viewed in the context of

alternative water sources that could be used for the purpose. The Board will give great weight to the results of studies made pursuant to the Warren-Alquist State Energy Resource Conservation and Development Act and carefully evaluate studies by the Department of Water Resources made pursuant to Sections 237 and 462, Division 1 of the California Water Code."

- b. "Studies of availability of inland waters for use in powerplant cooling facilities to be constructed the . . South Coastal Basins or other area which receive supplemental water from Central Valley Streams as for all major new uses must include an analysis of the impact of use on Delta outflow and Delta Water Quality objectives. The studies associated with powerplants should include an analysis of the cost and water use associated with the use of alternative cooling facilities employing dry, or wet/dry modes of operation."

- 8. The attached is a true and correct copy of certain pages from the Exhibit that I received.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge and belief.

Executed this _____ day of September 1999, at Apple Valley, California.

Gary A. Ledford
Taxpayer

Gary A. Ledford
11401 Apple Valley Road
Apple Valley, California 92308
(760)-240-1111
Fax (760)-240-3609

STATE OF CALIFORNIA

Energy Resources Conservation
And Development Commission

In the Matter of:)	Docket No. 97-AFC-1
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The Application for Certification)	PROOF OF SERVICE
For the High Desert Power Project [HDPP])	
_____)	

I Kathie Mergal declare that on _____, I deposited copies of the attached **INTERVENOR LEDFORD'S EXHIBIT[S]**, in the United States mail in Apple Valley California with first class postage thereon fully prepaid and addressed to the following:

Signed original document plus 11 copies to the following address:

California Energy Commission
Docket Unit
1516 Ninth Street, MS 4
Sacramento, CA 95814

In addition to the documents sent to the Commission Docket Unit, individual copies of all documents were sent to:

R.L. (Rick) Wolfinger, Vice President
High Desert Power Project LLC
250 West Pratt Street
Baltimore, MD 21201-2423

Thomas M. Barnett
Vice President and Project Manager
High Desert power Project, LLC
3501 Jamboree Road
South Tower, Suite 606
Newport Beach, CA 92660

Andrew C. Welch, P.E., Project Manager
High Desert power Project LLC
3501 Jamboree Road
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Allan J. Thompson
21 "C" Orinda Way, #314
Orinda, California 94563

Ms. Amy Cuellar (Steck)
Resource Management International, Inc.
3100 Zinfandel Dr. Ste. 600
Sacramento, CA 95670-6026

Janine G. Kelly
Envirosense
19257 Dunbridge Way
Gaithersburg, MD 20879

Intervenors

California Unions for Reliable Energy (CURE)
Marc D. Joseph
Adams, Broadwell & Joseph
651 Gateway Blvd., Ste 900
So. San Francisco, CA 94080

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Ellison & Schneider
2015 H Street
Sacramento, CA 95814

Carolyn A. Baker
Edson & Modisette
925 L Street, Ste. 1490
Sacramento, CA 95814

Interested Parties

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Curt Taucher
California Department of Fish and Game
Region V – Environmental Services
330 Golden Gate Shore, suite 50
Long Beach, CA 90802

Rebecca Jones
California Department of Fish and Game
Region V – Environmental Services
36431 – 41st Street
Palmdale, CA 93552

Nancee Murry
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1416 Ninth Street, 12th Floor
Sacramento, CA 95814

Thomas W. Bilhorn
Earth Sciences Consultants
18174 Viceroy Drive
San Diego, CA 92128

Air Resources Board
Robert Giorgis, project Assessment Branch
P.O. Box 2815, 2020 L Street
Sacramento, CA 95814

Added 3/21/99
Charles Fryxell
Air Pollution Control Officer
Mojave Desert AQMD
15428 Civic Drive, Suite 200
Victorville, CA 92392

Brad Foster
3658 O'Banion road
Yuba City, CA 95993

Interested Organizations

Southern California Edison
Attn: Ted H Heath, P.E.
2131 Walnut Grove Avenue
Rosemead, CA 91770

I declare under penalty of perjury that the foregoing is a true and correct.

Kathie Mergal

Gary A. Ledford
11401 Apple Valley Road
Apple Valley, California 92308
(760)-240-1111
Fax (760)-240-3609

In Pro per

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**AMENDED WITNESSES
AND EXHIBIT LIST
OF GARY A LEDFORD
FOR THE
HIGH DESERT POWER PROJECT**

Respectfully submitted:

September 21, 1999

GARY A. LEDFORD
PARTY IN INTERVENTION
IN PRO PER

TOPIC	WITNESS TO CROSS - AMINE	ESTIMATED TIME FOR CROSS-EXAMINATION
FACILITY DESIGN SEPTEMBER 16, 1999	Applicant:: Barnett/Rausavljevich Staff: Intervenor: Ledford	15 - 20 Minutes
VISUAL RESOURCES SEPTEMBER 16, 1999	Applicant: Kanemoto/ Rausavijavich/Barnett Staff: Walker Intervenor: Ledford	10 Minutes each 5 Minutes
BIOLOGICAL RESOURCES SEPTEMBER 30, 1999	Applicant:: Barnett/Vanherweg Staff:Sazaki CDFG: Jones/Bilhorn Intervenor: Ledford	10 Minutes each 10 Minutes 20 Minutes
ALTERNATIVES SEPTEMBER 30, 1999	Applicant:: Barnett Staff: Allen/Buell Intervenor: Ledford	15 Minutes 15 Minutes 15 Minutes
AIR QUALITY SEPTEMBER 30, 1999	Applicant:: Barnett/Head/Seidler/Ballentine/Cuelar / Wally Cure: Fox (if Available) Staff: Ngo Intervenor: Ledford	15 Minutes Each 20 Minutes 10 Minutes 20 Minutes
WATER RESOURCES October 7 & 8	Applicant:: Barnett Beebe Cure: Fox (if available) Staff: O'Hagen Bond Buell	30 Minutes 60 Minutes 30 - 60 Minutes 30 Minutes 15 Minutes 15 Minutes Total Cross 6 Hours - Not including - Objections or Redirect

October 7 & 8	<p>MWA: Norm Cauoette (if Available) John Norman (if Available) Jo Ann Aserwald (If Available)</p> <p>Bob Almond (If Available) Jack Binscroft (If Available) Don Brindle (If Available) Carl Coleman (If Available) Randy Coleman (If Available)</p> <p>Bob Krieger (If Available) Ed Strieger (If Available)</p> <p>VVWRA: Randy Hill</p> <hr/> <p>Intervenor: Ledford - Direct - Rebuttal Hansen - Enter by Deposition/Declaration Dendy - Same Rowe - Same Hampsen - Same USGS - Peter Martin (If Available)</p>	<p>20 Minutes 20 Minutes 10 Minutes 10 Minutes 10 Minutes 10 Minutes 60 Minutes 15 Minutes 60 Minutes 60 Minutes 60 Minutes</p> <p>60 Minutes</p> <p>Total Direct Testimony 6 Hours</p>
DRY COOLING OCTOBER 7 & 8	<p>Applicant:: Barnett</p> <p>Cure: Fox Staff: O'Hagen Bond Buell</p> <p>Intervenor: Ledford</p>	<p>15 Minutes</p> <p>15 Minutes 45 Minutes 45 Minutes 30 Minutes</p>
SOCIAL ECONOMICS SEPTEMBER 30 - OCTOBER 1	<p>Applicant:: Barnett/Wilson</p> <p>Cure: Jon Hughes Staff: Stennick Intervenor: Ledford</p>	<p>5 Minutes</p> <p>15 Minutes 15 Minutes</p>
TOPIC NOT SPECIFIED	DIRECT TESTIMONY	
CUMULATIVE IMPACTS	Intervenor: Ledford	20 Minutes
STATE LAW	Intervenor: Ledford	20 Minutes

ROLE OF THE PUBLIC IN THE PROCESS	Intervenor: Ledford	30 Minutes
TAXPAYERS HAVE FIRST PRIORITY RIGHTS TO MWA WATER	Intervenor: Ledford	15 Minutes
CEQA CONFORMANCE	Intervenor: Ledford	15 Minutes

PROPOSED EXHIBIT LIST

Intervenor Ledford Proposed Exhibit List

AMENDED SEPTEMBER 18, 1999

High Desert Power Plant Project

Docket Number 97-AFC-1

CEC EXHIBIT NUMBER	Interve nor Propose Exhibit #	Document Reference #	Received	To	From	Subject
	3	8949	7/ 1/ 98	CEC/ Docket Unit	Adams Broadwell & Joseph/ Heeley	Letter from Marc D. Joseph/ Lizanne Reynolds to Board of Directors, Victor Valley Water District, dated 6/ 30/ 98, Regarding High Desert power
	4	9465	10/ 6/ 98	CEC/ Docket Unit	CEC/ Buell	Article in Victorville Daily Press
	6	9508	10/ 15/ 98	CEC/ Docket Unit	HDPP/ Thompson	September 25, 1998 Lahontan Regional Water Quality Control Board Meeting Summary
119	7	9523	10/ 16/ 98	CEC/ Dockets File	Adams Broadwell & Joseph/ Lizanne Reynolds	10/ 16/ 98 Letter to Buell enclosing Well Interference Effects of High Desert Power Projects Proposed wellfield in the Victor Valley Water District
	13	9568	10/ 29/ 98	Planning and Resource Center	Mojave Water Agency/ Caouette	HDPP Water Site Application - Joint Meeting with VVWD
	16	9699	11/ 23/ 98	CEC/ Buell	Mojave Water Agency	Acceptance for processing by Mojave Water Agency for Water Services to the High Desert Project.
	31	10062	01/ 22/ 99	CEC/ Docket Files	Adams Broadwell & Joseph	Letter to Singer from Reynolds Dated 1/ 20/ 99 Regarding: Proposed Non-regulation of Discharge by High Desert
	32	10089	01/ 26/ 99	CEC/ Dockets Files	Ying	Letter against the building of and of operate a 680 to 830 MW natural gas fueled electricity generation power plant at High Desert.

	33	10094	01/ 26/ 99	CEC/ Librarian/ Public Members/ Docket Files	CEC/ Therkelsen	Document Handling - Public Participation in Review of the High Desert Power Project.
	34	10095	01/ 26/ 99	CEC/ Docket Files/ High Desert Agency Distributi on L	CEC/ Therkelsen	Request for Agency Comments on the High Desert Power Project Staff Assessment.
	36	10118	01/ 29/ 99	CEC/ Docket Files	Ledford	Petition for Intervention
	37	10135	02/ 03/ 99	CEC/ Docket Files	CEC/ Laurie/ Sharpless	Order Granting Petition to Intervene
	38	10151	02/ 05/ 99	CEC/ Docket Files	Ledford/ Taxpayer	Opposition to Condition
	39	10152	02/ 05/ 99	CEC/ Docket Files	High Desert Power Project, LLC	Proposed HDPP Groundwater Banking Operation
	41	10165	02/ 08/ 99	CEC/ Docket Files	CEC/ Sharpless	Notice of a Staff Workshop for High Desert AFC. 2/ 16/ 99 Mojave Water Agency, Apple Valley.
	44	10189	02/ 09/ 99	Docket Files	Party in interventi on/ Ledford	Prehearing Conference Statement of Gary Ledford Objecting to Proposed Conditions Relating to Water Service
	45	10196	02/ 10/ 99	CEC/ Docket Files	Party in Interventi on/ Ledford	Data Request Victor Valley Water District
	46	10197	02/ 10/ 99	CEC/ Docket Files	Party in Interventi on/ Ledford	Data Request of Mojave Water Agency and the Board of Directors of the Agency Acting as the Watermaster Set Number One
	47	10198	02/ 10/ 99	CEC/ Docket Files	Intervenin g Party/ Ledford	Prehearing Conference Statement of Gary Ledford Objecting to Proposed Conditions Relating to Water Service.
	48	10200	02/ 10/	CEC/	Intervenin	Data Request - Letter to Buck

			99	Docket Files	g Party/ Ledford	Johns, Manager, High Desert
	49	10201	02/ 10/ 99	CEC/ Docket Files	Interventi on Party/ Ledford	Motion by Gary A. Ledford to Continue the Prehearing Conference and Change the Location of the Hearing
	51	10209	02/ 11/ 99	CEC/ Docket File	CEC/ Sharpless / Laurie	Order Denying Intervenor's Motion(Attachment: Proof of Service)
	52	10225	02/ 18/ 99	CEC/ Docket Files	Energy Resources Conservat ion & Dev. Comm./ Bettwy	Petition to Intervene
	53	10239	02/ 18/ 99	CEC/ Docket Files	CEC Public Meeting	Business Meeting Mailing List
	54	10241	02/ 18/ 99	CEC/ Docket File	CEC	Notice of Continuation - Of February 16, Staff Workshop for the High Desert Power Project
	56	10273	02/ 19/ 99	CEC/ Mendonc a	Los Angeles Dept. of Water and Power/ Holloway	Comments RE: Petition to Intervene.
	58	10275	02/ 19/ 99	CEC/ Docket Unit	High Desert Power Project/ Thompso n	Applicant Comments to Staff Assessment
	59	10291	02/ 24/ 99	CEC/ Docket Files	Thompso n	Applicant Response to Data Requests Filed by Gary Ledford
	60	10294	02/ 24/ 99	CEC/ Docket Files	CEC/ Sharpless / Laurie	Order Granting Petitions to Intervene
	61	10304	02/ 25/ 99	CEC/ Docket Files	Thompso n	Applicant Response to Data Requests Filed by Gary Ledford
	64	10330	02/ 26/ 99	CEC/ Docket File	CEC/ Sharpless	Notice of a Staff Workshop - March 12, 1999 (Attachment: Proof of Service)
	65	10353	03/ 03/ 99	CEC/ Docket File	CEC/ Buell	Sign-in Sheet: Staff Workshop 3/ 2/ 99

	66	10376	03/ 04/ 99	CEC/ Docket Files	Adams Broadwell & Joseph/ Renolds	Letter to Buell from Reynolds (3/ 3/ 99) HDPP Ozone Study by Blanchard ET AL.
	67	10400	03/ 05/ 99	CEC/ O'Hagan / Docket Files	LD Bond & Associates / Bond	ROC Jess Lefkoff - March 1, 1999
	70	10445	03/ 10/ 99	CEC/ O'Hagan	L. D. Bond & Associates / L. Bond	Suggestions for the Evaluation of Groundwater Use
	71	10469	03/ 15/ 99	CEC/ Docket File		Assessment of Groundwater Impacts
	72	10470	03/ 15/ 99	CEC/ Docket Files		Aquifer Testing Program Summary
	73	10496	03/ 16/ 99	CEC/ Docket File	CEC	Model Features, Numerical Values, and Scope of Sensitivity Analysis
	74	10497	03/ 16/ 99	CEC/ O'Hagan	L Bond & Associates / Bond	Modeling Issues for 3/ 16/ 99 Workshop
	75	10524	03/ 19/ 99	CEC/ Docket File	CEC/ Sharpless	Notice of a Staff Workshop - April 1, 1999 - San Francisco
	77	10547	03/ 22/ 99	CEC/ Docket File	Gary A. Ledford	Motion for Order Directing Response
	81	10604	03/ 25/ 99	CEC/ Docket File	CEC/ Buell	Sign-in Sheet RE: Staff Workshop - March 12, 1999
	82	10618	03/ 29/ 99	CEC/ Docket File	CEC	Notice of Cancellation of a Staff Workshop for High Desert - April 1, 1999
	83	10746	04/ 05/ 99	CCEC/ Buell	G. Ledford	Letter in Response to CURE's Preliminary Dry Cooling Analysis. (Attachment: Proof of Service)
	84	10777	04/ 09/ 99	CEC/ Docket File	CEC/ Ledford	Prehearing Conference Statement of Gary Ledford Objecting to Proposed Conditions Relating to Water Service (Attachment: Proof of Service)
	89	10809	04/ 09/ 99	CEC/ Docket	Gary A. Ledford	Prehearing Conference Statement of Gary Ledford

				File		Objection to Proposed Conditions Relating to Relating to Water Service
	90	10811	04/ 09/ 99	HDPP/ Welch	CEC/ Buell	Staff's Revisions/ Supplemental Analysis Concerning: Cooling Technologies; Biological Resources; Cultural Resources; and Proposed Water Resources
	91	10813	04/ 12/ 99	CEC/ Docket Unit	RMI/ Cuellar	Addendum Number 2 to the Evaluation of Alternative Water Supplies for the High Desert Power Project. (Attachment: Proof of Service)
	94	10979	04/ 28/ 99	CEC/ Docket Files	CEC/ Morthole	5 Reports of Conversations regarding Water Supply Modeling by Linda D. Bond of LD Bond & 95Associates
	95	11014	05/ 10/ 99	CEC/ Docket Files	Adams Broadwell Joseph & Cordozo	Joint Environmental Impact Mitigation Proposal of the Applicant and CURE
	96	11016	05/ 06/ 99	CEC/ Buell/ Docket Files	Gary Ledford	Supplement Evidentiary Position Paper Failure of Project to Comply the California State Constitution Reasonableness of Use Sutter License
	98	11046	05/ 11/ 99	CEC/ Docket Files	CEC/ Laurie	Notice of Change in Workshop Location and Time - May 13, 1999 - CEC
	99	11110	05/ 18/ 99	High Desert Power Project/ A. Welch/ CEC/ Docket File	CEC/ Buell	Letter regarding Linda Bond's proposed modeling analysis for estimating the HDPP impacts to local ground water conditions.
	100	11255	05/ 28/ 99	CEC/ Docket Files	Thompson	correspondence to R. Buell dated May 26, 1999 regarding water supply.
	101	11256	05/ 28/ 99	CEC/ Docket Files	Thompson	Correspondence to USEPA Region IX dated May 24, 1999 regarding water supply
	102	11258	05/ 28/ 99	CEC/ Buell/ Docket Files	High Desert Power Project	Letter regarding the water supply

					LLC/ Andrew C. Welch	
	103	11281	06/ 10/ 99	CEC/ Docket Files	Thompso n	Correspondence to Mr. Michael Duane Davis
	108	11310	06/ 04/ 99	CEC/ Docket Files	CEC/ Laurie	Notice of Staff Workshop June 15, 1999 Mojave Water Agency, Apple Valley
	109	11319	06/ 07/ 99	CEC/ Joe O'Hagan / Docket Files	L D Bond & Associates / Linda D. Bond	Outline of Modeling Analysis of HDPP Project Impacts to Local Water Conditions
	110	11320	06/ 07/ 99	CEC/ Docket Files	Thompso n	Status Report #1
	111	11323	06/ 09/ 99	CEC/ R. Buell/ Docket Files	Gresham, Savage, Nolan & Tilden, LLP/ Michael Duane	Letter objecting to and protests the proposed 100% consumptive use of water from the Mojave Basin Area
	112	11326	06/ 11/ 99	CEC/ Buell	Gresham, Savage, Nolan & Tilden LLP/ M. Davis	Comments from Firm Representing Silver Lakes Association, a County Water District, which is Situated in the Alto Sub-Area of the Mojave Ba
	113	11327	06/ 11/ 99	CEC/ Buell	Gresham, Savage, Nolan & Tilden LLP/ M. Davis	Comments from the Firm Representing the Badly Mesa Water District, A County Water District, Which is Situated in the Alta Mesa Sub- Area of
	114	11328	06/ 15/ 99	CEC/ O'Hagen	L. D. Bond & Associates	Summary of Modeling Analysis of HDPP Impacts to Local Water Conditions of Supplemental Injection
	115	11359	06/ 16/ 99	CEC/ Docket Files	CEC/ Staff Workshop	Staff Workshop - Mojave Water Agency - Apple Valley, CA
	120	11482	07/ 20/ 99	CEC/ Docket Files	CEC.Laur ie/ Rohy	Order Denying Motion for Preparation of Environmental Impact Report
	122	11501	07/ 20/ 99	CEC/ Docket	Gary Ledford	Supplemental Reply to HDPP Response to staff Status Report

				File		Numbers 12 (Attachment: Proof of Service)
	123	11503	07/ 21/ 99	CEC/ Docket Unit	HDPP/ Thompson	Response of HDPP to Various Gary A. Ledford Filings, dated July 20, 1999 (Attachment: Proof of Service)
110	125				Gary Ledford	5 th Annual Report to the Court, Mojave Adjudication; Selected Pages - Public Document available through the MWA
111	126				Gary Ledford	MWA Water Management Plan - Selected Pages, Public Document available through the MWA
112	127				Gary Ledford	Master Plan For the Delivery of Water - Selected Pages, Public Document available through the MWA
113	128				Gary Ledford	MWA Supreme Court Brief [RESPONDENTS' OPENING BRIEF ON THE MERITS] 10/23/98 Selected Pages - Public Document Available through MWA
114	129				Gary Ledford	Graphic - showing Decline in Water HDPP
115	131				Gary Ledford	USGS Report 95-4189 selected pages; public Document available through the MWA
	132				Gary Ledford	USGS - Report - Expected not available at time this list is submitted
116	134				Gary Ledford	Water Pricing - MWA August 23, 1999
117					Gary Ledford	
118					Gary Ledford	
119					Gary Ledford	
120					Gary Ledford	Memo and Minutes of MWA
	136				Gary Ledford	Declaration of Norman T. Caouette in Support of Mojave Water Agency's Opposition to Petition for Writ of Mandate
					Gary	Settlement Agreement VEEDA

					Ledford	- MWA
					Gary Ledford	Declaration of Larry Rowe and Exhibits
					Gary Ledford	SWRCB - Beneficial Use
					Gary Ledford	Water Control Policy
					Gary Ledford	Cauoette E-mail "Our Ordinance Requires CEQA
					Gary Ledford	Certificates of Participation
					Gary Ledford	
					Gary Ledford	

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Kathie Mergal